LED Worker Origins & Destinations

-- Online GIS Mapping --

LED State Pilot Workshop

John Carpenter – Excensus LLC Washington DC - November 8-9, 2004

Workforce Data "On-the-Map"

Objectives:

- Quick & easy internet access to small-area workforce maps showing travel patterns and worker characteristics.
- Information that users want and in a format easily applied to workforce planning, client services, labor market analysis, and economic development.

Intuitive Application Design

- Follows a Basic Four-step Process:
 - 1. Pick or draw a geographic area or location (on the map viewer).
 - 2. Choose from a set of available maps.
 - 3. View and modify a map and its tabular report.
 - 4. Save a copy to your local PC or network.

Enhanced Controls

- Flexibility Where Needed:
 - Turn geographic layers on or off. Position the map view the way you want it.
 - If needed, apply multiple overlays.
 - Screen the maps based on selected block group attributes (e.g., worker ages, wages, industries, growth indicators)

Enhanced Controls

- Flexibility Where Needed:
 - Produce custom reports with titles,
 legends, documentation, and commentary
 - Export summary data to a spreadsheet
 - Save settings return later to the same spot

LED Origin-Destination Database



- Mean wages earned
- Industries (2-digit NAICS) of workers

• by earnings range (3)

* Subject to Census Bureau Disclosure Review Board approval.

- Industries (2-digit NAICS)
- # or workers
 - by age range (3)
 - by earnings range (3)
- Mean wages paid
- Demand/growth indicators
 - Job creation/destruction
 - Hires/separations
 - Earnings hires/separations

GIS Map Layers

Base Geographic Layers

- Local roads, major highways & interstates
- Lakes and rivers
- State, county, city, and minor civil division (MCD) boundaries
- US Census block and block group boundaries

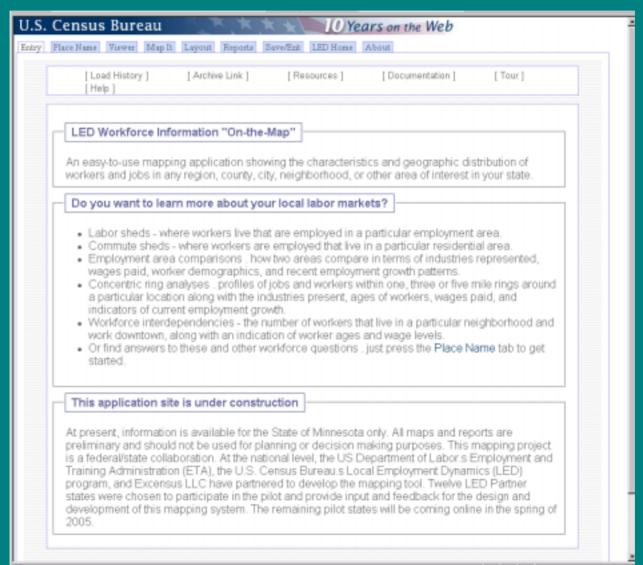
State Add-On Layers

- State economic development regions
- WIB workforce service areas
- OneStop Career Centers
- Colleges and training schools
 - Community colleges & technical colleges
 - Universities and four-year college
 - Other colleges and training centers

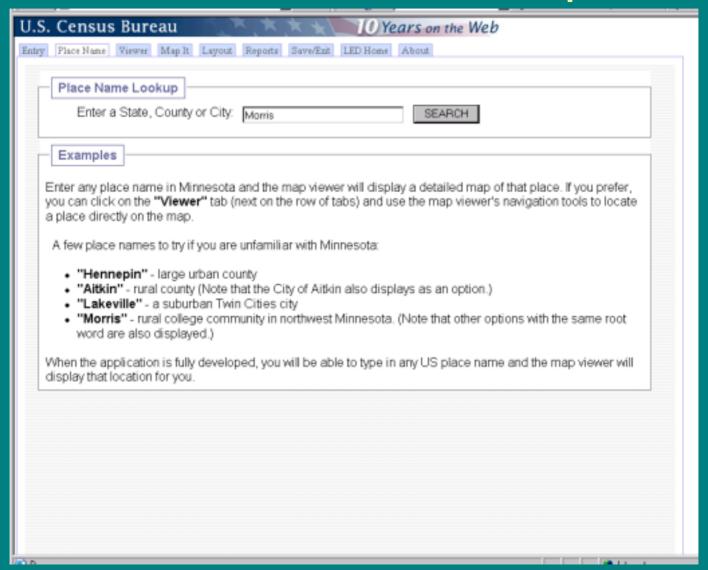
Modular Tab Design

- Entry Application description and tutorial
- Place Name | Shortcut to local area map
- Viewer Map viewer and navigation tools
- Map-It Pick or draw study area, choose map type & filter the results
- Layout Create finished maps and reports
- Reports View reports & download data
- Save/Exit Save session settings

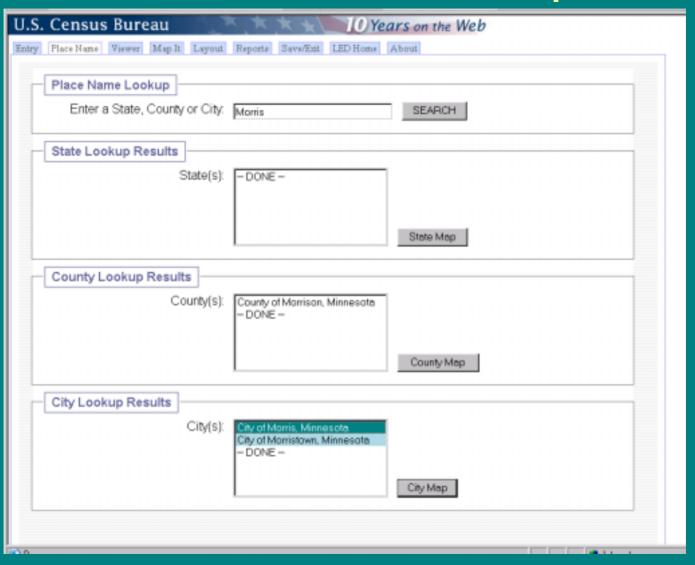
Entry Page



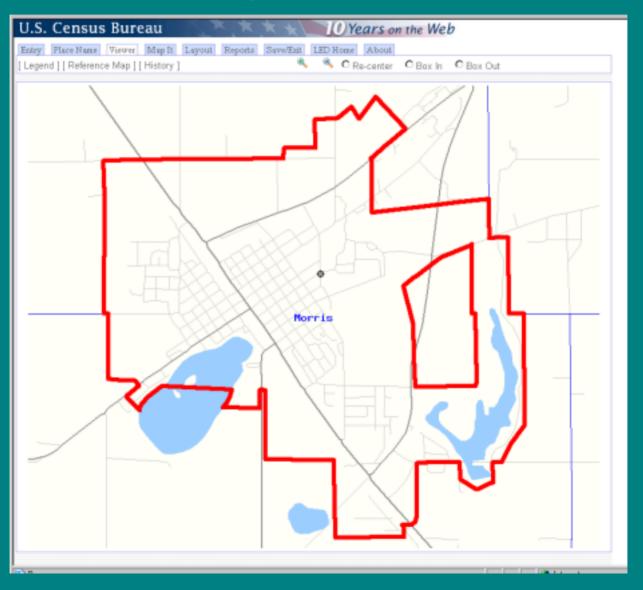
Place Name Lookup



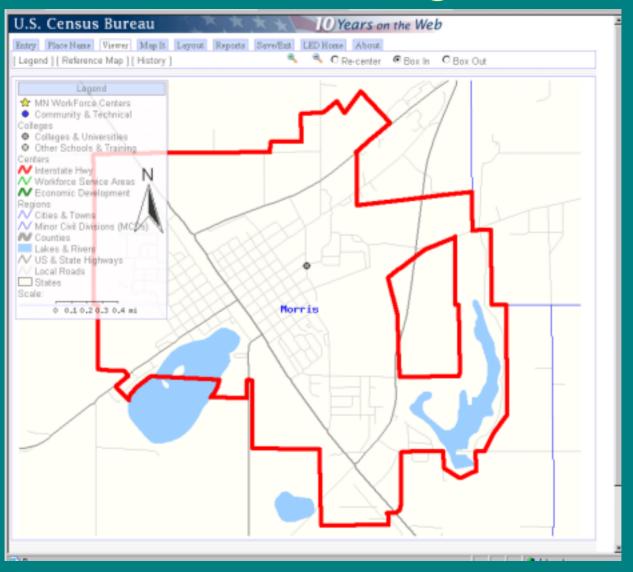
Place Name Lookup



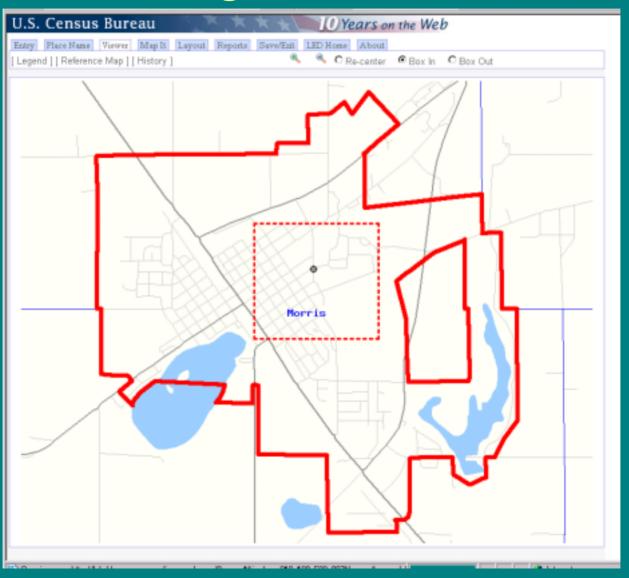
Map Viewer



Viewer with Legend



Navigation Tools



Area Selection Tools

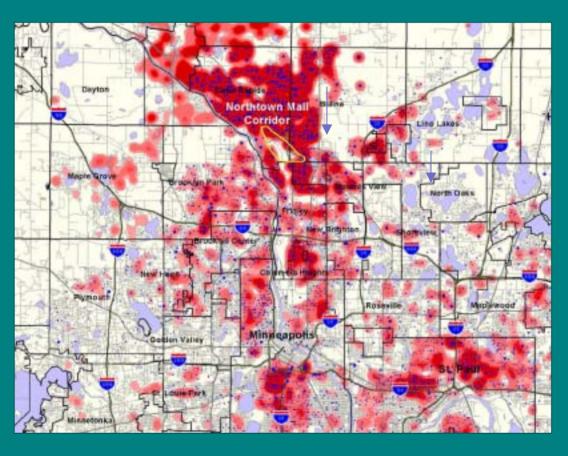
- Standard Areas (e.g., WIB areas)
 - Click the area on the map
 - Pull from a place name list
- Custom areas (e.g., neighborhood)
 - Draw box
 - Pencil drawing tool
 - Spray paint tool
- Building location (e.g., OneStop center)
 - Point radius tool

Map Types

- Worker origin maps (labor shed)
- Worker destination map (Commute shed)
- Concentric circle map
- Employment shift map
- Area interdependencies map

Sample Labor Shed Map

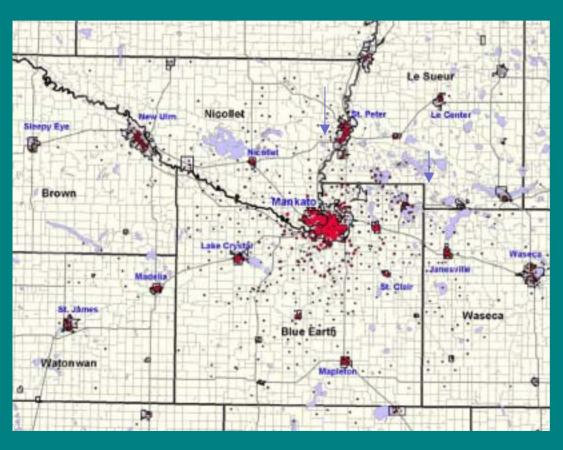
Northtown Mall Corridor Area



- Displays home blocks for workers employed in the custom defined area
- Area defined using "pencil" draw tool & associated census blocks
- Red shaded "thermals" show areas of high worker density
- Dimensioned points show relative number of workers in specific home blocks

Sample Labor Shed Map

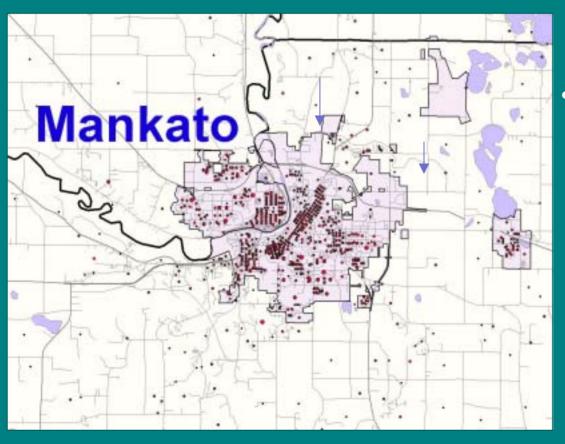
City of Mankato, MN



- Displays home blocks for workers employed in the selected city.
- The city was selected by clicking on the map.
- Thermals were switched off for this map.
- Dimensioned points show relative number of workers in specific home blocks

Sample Labor Shed Map

City of Mankato, MN



 Close-in view showing location of workers that live and work in the Mankato area.

Labor Shed Report Template

Labor Shed Profile Report - Worker Origins and Workplace Characteristics

State Name > County Name > City or MCD Name > Custom Area Name

Where Employees Live

	2002 Count Share		2001 Count Share		2002-2001 Change Pct.	
Workers (Primary Job)		100%		100%		%
Live and Work						
* In the same County		%		%		%
* In the same City/Township		%		%		%
Places Supplying the Most Worl	kers					
* Place #1 (autofill)		%		%		%
* Place #1 (autofill)		%		%		%
* Place #1 (autofill)		%		%		%
* Place #1 (autofill)		%		%		%
* Place #1 (autofill)		%		%		%
* Place #1 (autofill)		%		%		%
* All other cities (click for list)		%		%		%

Industries Employing at least 20% of Workers (2-digit NAICS)

* 00-00 - Industry Descriptor

* 00-00 - Industry Descriptor

* 00-00 - Industry Descriptor

Workplace Characteristics

	200	02	20	01	2002-2	2001
	Count	<u>Share</u>	Count	<u>Share</u>	<u>Change</u>	Pct.
Number of Employers						%
Workers (Primary Job)		100%		100%		%
Workers by Age						
* Under age 30		%		%		%
* Age 30 to 54		%		%		%
* Age 55 or older		%		%		%
Workers by Earnings Paid						
* Under \$15K		%		%		%
* \$15K to \$39K		%		%		%
* \$40K or more		%		%		%
Mean monthly earnings	\$		\$		\$	%
Employment Growth Indicato	rs					
New Hires (2nd Quarter)		%		%		%
* Mean monthly earnings	\$		\$		\$	%
Separations (2nd Quarter)		%		%		%
* Mean monthly earnings	\$		\$		\$	%

Definitions, Sources and Disclaimers (Click here)

Download to Spreadsheet

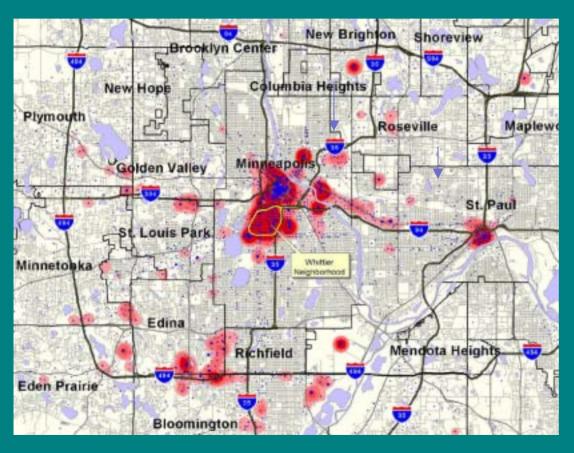
Note: Worker counts are based on the location of a worker's highest paying job during the indicated year.

Source: LED Worker Origin/Destination Minnesota Database (2001-2002)

Date Stamp

Sample Commute Shed Map

Whittier Neighborhood



- Displays workplace blocks for workers lilving in the custom defined area
- Area defined using "pencil" draw tool & associated census blocks
- Red shaded "thermals" show areas of high worker density
- Dimensioned points show relative number of workers in specific workplace blocks

Sample Commute Shed Map

Whittier Neighborhood



 Close-in view showing workplace blocks (including Downtown Minneapolis) where Whittier workers are employed. The dots are sized based on the number of workers.

Commute Shed Report Template

Commute Shed Profile Report - Worker Destinations and Workforce Characteristics

State Name > County Name > City or MCD Name > Custom Area Name

Where Workers are Employed

	2002 <u>Count</u> <u>Share</u>		2001 <u>Count</u> <u>Share</u>		2002-2 Change				
Number of Employers Workers (Primary Job)		100%		100%		% %			
Live and Work									
* In the same County		%		%		%			
* In the same City/Township		%		%		%			
Places Supplying the Most Workers									
* Place #1 (autofill)		%		%		%			
* Place #1 (autofill)		%		%		%			
* Place #1 (autofill)		%		%		%			
* Place #1 (autofill)		%		%		%			
* Place #1 (autofill)		%		%		%			
* Place #1 (autofill)		%		%		%			
* All other cities (click for list)		%		%		%			

Local Labor Market

Employment (Primary) Residents Employed In-Area			
Local Labor Utilization	%	%	

Resident Workforce Characteristics

	20	02	20	01	2002-2001	
	Count	Share	Count	Share	Change	Pct.
Workers (Primary Job)		100%		100%		%
Workers by Age						
* Under age 30		%		%		%
* Age 30 to 54		%		%		%
* Age 55 or older		%		%		%
Workers by Wages Earned						
* Under \$15K		%		%		%
* \$15K to \$39K		%		%		%
* \$40K or more		%		%		%
Avg. annual earnings	\$		\$		\$	%

Industries Employing at least 20% of Workers (2-digit NAICS)

- * 00-00 Industry Descriptor
- * 00-00 Industry Descriptor
- * 00-00 Industry Descriptor

Definitions, Sources and Disclaimers (Click here)

Download to Spreadsheet

Note: Worker counts are based on the location of a worker's highest paying job during the indicated year.

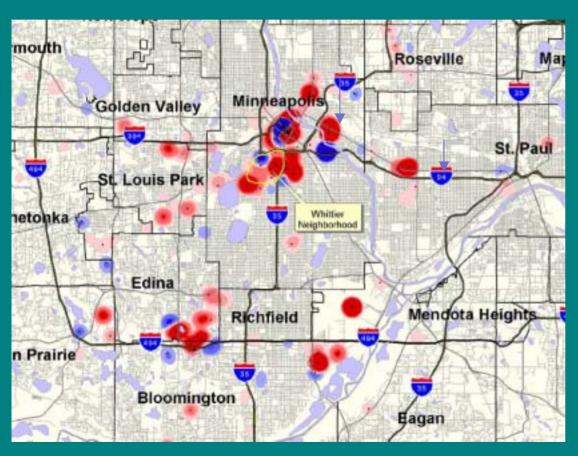
Source: LED Worker Origin/Destination Minnesota Database (2001-2002)

-- %

Date Stamp

Sample Employment Shift Map

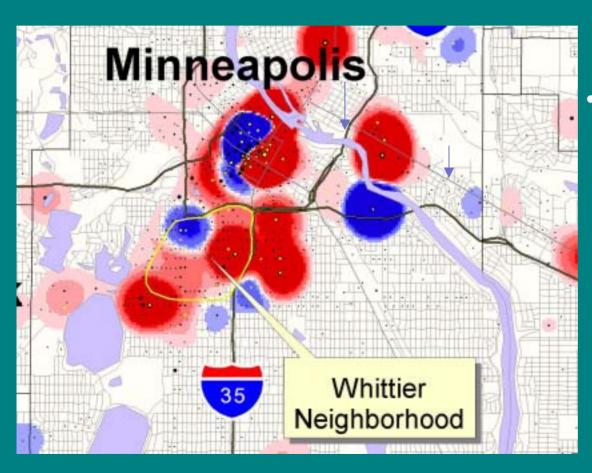
Whittier Neighborhood 2001 to 2002



- Displays workplace blocks where the number of local workers increased (in red) and decreased (in blue) from 2001 to 2002.
- Area defined using "pencil" draw tool & associated census blocks
- Dimensioned points show areas where shifts of 10 or more local workers occurred.

Sample Employment Shift Map

Whittier Neighborhood



 Close-in view showing workplace blocks (including Downtown Minneapolis) where Whittier workers are increasing (yellow on red) or decreasing (yellow on blue) in number.

Employment Shift Report Template

Commute Shed Profile Report - Worker Destinations and Workforce Characteristics

State Name > County Name > City or MCD Name > Custom Area Name

Where Workers are Employed

	20 Count	02 <u>Share</u>	20 Count	01 <u>Share</u>	2002-2 Change				
Number of Employers Workers (Primary Job)		100%		100%		% %			
Live and Work		10070		10070		70			
* In the same County		%		%		%			
* In the same City/Township		%		%		%			
Places Supplying the Most Workers									
* Place #1 (autofill)	NOI O	%		%		%			
* Place #1 (autofill)		%		%		%			
* Place #1 (autofill)		%		%		%			
* Place #1 (autofill)		%		%		%			
* Place #1 (autofill)		%		%		%			
* Place #1 (autofill)		%		%		%			
* All other cities (click for list)		%		%		%			

Local Labor Market

Date Stamp

Employment (Primary)
Residents Employed In-Area
Local Labor Utilization -- % -- %

Resident Workforce Characteristics

	2002		20	01	2002-2001	
	Count	Share	Count	Share	Change	Pct.
Wantana (Drimanu, Jah)		4000/		4000/		0/
Workers (Primary Job)		100%		100%		%
Workers by Age						
* Under age 30		%		%		%
* Age 30 to 54		%		%		%
* Age 55 or older		%		%		%
•						
Workers by Wages Earned						
* Under \$15K		%		%		%
* \$15K to \$39K		%		%		%
* \$40K or more		%		%		%
· ·		70		- 70		
Avg. annual earnings	\$		\$		\$	%

Industries Employing at least 20% of Workers (2-digit NAICS)

- * 00-00 Industry Descriptor
- * 00-00 Industry Descriptor
- * 00-00 Industry Descriptor

Definitions, Sources and Disclaimers (Click here)

Download to Spreadsheet

Note: Worker counts are based on the location of a worker's highest paying job during the indicated year.

-- %

-- %

Source: LED Worker Origin/Destination Minnesota Database (2001-2002)

Sample Concentric Circle Map

Mankato, MN (5, 10, 20 Mile Rings)



- Displays concentric rings from center of selected area or location.
- The city was selected by clicking on the map.
- The ring overlay can be placed on top of any other map (e.g., labor shed)
- A specific report is generated showing workforce characteristics within each ring segment (5, 10, 20 mile portions.) Distances are userdefined.

Concentric Circle Report Template

Concentric Circles Profile Report - Workplace and Residential Worker Characteristics

State Name > County Name > City or MCD Name > Custom Area Name

Worker Characteristics - Ring Area Totals

		to 5 Mi			Up to 10 Miles Up to 20 Miles							
	2002 Count	2001 Count	2001 Change	-2002 Pct.	2002 Count	2001 Count	2001-200 Change		2002 Count	2001 Count	2001-200 Change	
Number of Employers Workers (Primary Job)				% %				% %				% %
Workers by Age * Under age 30 * Age 30 to 54 * Age 55 or older				% % %				% % %				% % %
Workers by Wages Paid * Under \$15K * \$15K to \$39K * \$40K or more				% % %				% % %				% % %
Avg. monthly wages paid	\$	\$	\$	%	\$	\$	\$	%	\$	\$	\$	%
Employment Area Growth Inc	dicators											
* New Hires (2nd Quarter) Mean monthly earnings * Separations (2nd Quarter)	\$	\$	\$	% % %	\$	\$	\$	% % %	\$	\$	\$	% % %
Mean monthly earnings	\$	\$	\$	%	\$	\$	\$	%	\$	\$	\$	%
Industries with at least 20% of	of Workers	;										
	* 00-00 -	Industry D Industry D Industry D	escriptor		* 00-00 -	Industry D Industry D Industry D	escriptor		* 00-00	- Industry [- Industry [- Industry [Descriptor	
Resident Workforce Cha	racterist	tics										
Workers (Primary Job)				%				%				%
Workers by Age * Under age 30 * Age 30 to 54 * Age 55 or older				% % %				% % %				% % %
Workers by Wages Earned * Under \$15K * \$15K to \$39K				% %				% %				% %
* \$40K or more Avg. annual earnings	\$	\$	\$	% %	\$	\$	\$	% %	\$	\$	\$	% %
Industries with at least 20% of	of Workers	;										
	* 00-00 - * 00-00 -	Industry D Industry D Industry D	escriptor		* 00-00 -	Industry D Industry D Industry D	escriptor	(0)	* 00-00 * 00-00	Industry [Industry [Industry [Descriptor	

Note: Worker counts are based on the location of a worker's highest paying job during the indicated year.

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Definitions, Sources and Disclaimers (Click here)

Download to Spreadsheet

Sample of Interdependencies Map

Mankato and New Ulm, Minnesota



- Displays the two areas for shared labor market profiling
- The cities selected by clicking on the map.
- This map may be used as an overlay onto other maps (e.g., labor shed)
- A specific report is generated showing overall characteristics for the two cities and counts of workers living in one community and working in the other.

Area Interdependencies Report Template

Labor Market Interdepencies Report - Shared Workers

State Name > County Name > City or MCD Name > Custom Area Name #1

Workers Characteristics - Employed In-Area

	20 Count		20 Count		2001- Change	
Number of Employers Workers (Primary Job)		100%		100%		% %
Workers by Age * Under age 30 * Age 30 to 54 * Age 55 or older		% % %		% % %		% % %
* Under \$15K * \$15K to \$39K * \$40K or more Avg. monthly wages paid	\$	% % %	\$	% % %	\$	% % %
* New Hires (2nd Quarter) Mean monthly earnings Separations (2nd Quarter) Mean monthly earnings	s \$	% %	\$	% %	\$ \$	% % %

Industries Employing at least 20% of Workers (2-digit NAICS)

- * 00-00 Industry Descriptor
- * 00-00 Industry Descriptor
- * 00-00 Industry Descriptor

·

Resident Workforce Characteristics

	2002 <u>Count</u> <u>Share</u>		20 Count	01 <u>Share</u>	2001-2002 Change Pct.	
Workers (Primary Job)		100%		100%		%
Workers by Age						
* Under age 30		%		%		%
* Age 30 to 54		%		%		%
* Age 55 or older		%		%		%
Workers by Wages Earned						
* Under \$15K		%		%		%
* \$15K to \$39K		%		%		%
* \$40K or more		%		%		%
Avg. annual earnings	\$		\$		\$	%

Industries Employing at least 20% of Workers (2-digit NAICS)

- * 00-00 Industry Descriptor *
 * 00-00 Industry Descriptor
- * 00-00 Industry Descriptor

Workers From Area #2

Workers (Primary Job)

(Shows number and percent of Area #1 employment held by Area #2 workers)

State Name > County Name > City or MCD Name > Custom Area Name #2

Workers Characteristics - Employed In-Area

	20 Count	02 <u>Share</u>	20 Count		2001-: Change	
Number of Employers Workers (Primary Job)		100%		100%		% %
Workers by Age						
* Under age 30		%		%		%
* Age 30 to 54		%		%		%
* Age 55 or older		%		%		%
Workers by Wages Paid * Under \$15K		% %		%		%
* \$15K to \$39K * \$40K or more		% %		% %		% %
Avg. monthly wages paid	\$	70	\$	70	\$	%
Employment Area Growth Ind	licators					
* New Hires (2nd Quarter)		%		%		%
Mean monthly earnings * Separations (2nd Quarter)	\$	%	\$	%	\$	% %
Mean monthly earnings	\$		\$		\$	%

Industries Employing at least 20% of Workers (2-digit NAICS)

- * 00-00 Industry Descriptor
- * 00-00 Industry Descriptor
- * 00-00 Industry Descriptor

Resident Workforce Characteristics

	2002 Count Share		20 Count		2001-2002 Change Pct.	
Workers (Primary Job)		100%		100%		%
Workers by Age * Under age 30 * Age 30 to 54 * Age 55 or older		% % %		% % %		% % %
* Under \$15K * \$15K to \$39K * \$40K or more * Avg. annual earnings	\$	% % %	\$	% % %	\$	% % %

Industries Employing at least 20% of Workers (2-digit NAICS)

- * 00-00 Industry Descriptor
- * 00-00 Industry Descriptor
- * 00-00 Industry Descriptor

Workers From Area #1

Workers (Primary Job)

(Shows number and percent of Area #2 employment held by Area #3 workers)

Definitions, Sources and Disclaimers (Click here)

Download to Spreadsheet

 $\underline{\textit{Note:}} \quad \text{Worker counts are based on the location of a worker's highest paying job during the indicated year.}$

Exports & Downloads

- Labor Market Maps
 - Export as JPEG image or PDF.
- Reports
 - Export as JPEG image or PDF
 - Download summary data file to an EXCEL spreadsheet

Data Filtering

The map overlay can be redrawn based on the travel characteristics of a subset of workers. By selecting from this list of attributes a modified map will be displayed for workers in blocks with these attributes:

Worker Ages

(Keep within the selected map area only those census blocks where the largest group of workers is in this age category. Leave unchecked if no filtering is needed.)

- o Under age 30
- o Age 30 to 54
- o Age 55 or older

Annual Wages Earned Per Worker

(Keep within the selected map area only those census blocks where the largest group of workers is in this earnings category. Leave unchecked if no filtering is needed.)

- o Under \$15,000
- o \$15,000 to \$29,999
- o \$30,000 or more

Average Annual Wages Earned

(Keep within the selected map area only those census blocks where average earnings are within the specified range. Leave unchecked if no filtering is needed.)

0	Less than \$15,000	 \$25,000 or more
0	Less than \$20,000	o \$30,000 or more
0	Less than \$25,000	 \$35,000 or more
0	Less than \$30,000	 \$40,000 or more
0	Less than \$35,000	 \$45,000 or more
0	Less than \$40,000	 \$50,000 or more

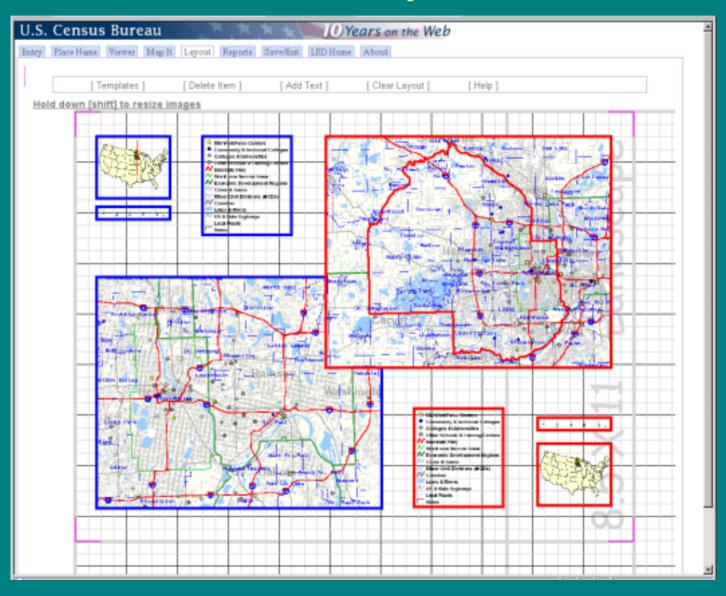
Dominant Industry or Industries (2-digit NAICS codes)

(Keep within the selected map area only those census blocks where the dominant industries are among those chosen. Leave unchecked if no filtering is needed.)

- 11 Agriculture, Forestry, Fishing & Hunting
 21 Mining
 22 Utilities
 23 Construction
 31-33 Manufacturing
 42 Wholesale Trade
 44-45 Retail Trade
 48-49 Transportation & Warehousing
- 51 Information
- o 52 Finance & Insurance
- o 53 Real Estate, Rental & Leasing

- 54 Professional, Scientific & Technical Services
- o 55 Management of Companies/Enterprises
- o 56 Administration, Support & Waste Management
- 61 Educational Services
- o 62 Health Care & Social Assistance
- o 71 Arts, Entertainment & Recreation
- o 72 Accommodation & Food Services
- o 81 Other Services (excl. Public Admin.)
- o 92 Public Administration

Print Layout



Save Session

Current session history settings can be saved for use during another online mapping session. History settings are saved with a date stamp and your email address. At a later session, these settings can be loaded or deleted from the "Load History" tab on the application entry page.

Enter an email address (*The address is used to store the settings*)

Save Settings

Archive – Map Gallery

- Compendium of maps and reports for common areas and locations
 - Map image
 - Description and author
 - Session marker
 - Marker offers capability to replicate the map in real time form and make revisions or changes to the map

Online Help System

- Chapter format (Microsoft model)
 - Search all help screens
 - Compiled by tab
- Help tags
 - Attached to tabs, controls & tools, and dialog boxes
 - Clicking the help tag opens up a new window with help for that specific task or function